

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB2004/003849

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N1/20 G01N33/28 G01F1/74

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N G01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/49370 A (ANDREUSSI PAOLO) 24 August 2000 (2000-08-24) cited in the application abstract; figures 1,2 page 3, line 9 - page 6, line 33 page 7, line 13 - page 8, line 23 page 9, line 10 - page 10, line 17 page 11, line 12 - page 14, line 17	1-79
X	US 4 881 412 A (NORTHEGE RONALD) 21 November 1989 (1989-11-21) abstract; figures 1,2	1-17, 29-45,56 18-28, 46-55
Y	column 1, line 62 - column 2, line 16 column 2, line 40 - column 3, line 62 column 4, line 6 - line 62 column 5, line 21 - column 6, line 60 ----- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

2 December 2004

Date of mailing of the international search report

10/12/2004

Name and mailing address of the ISA

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PCT/GB2004/003849

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 6 128 962 A (MARRELLI JOHN D ET AL) 10 October 2000 (2000-10-10) abstract; figures 2,3 column 2, line 40 - column 3, line 20 column 4, line 10 - column 6, line 67 -----	1-17, 29-45,56 18-28, 46-55
X	US 5 861 561 A (LOVING ROGER SCOTT ET AL) 19 January 1999 (1999-01-19) abstract; figures 1-9 column 2, line 31 - line 63 column 3, line 5 - column 4, line 43 -----	1-17, 29-45,56
X	US 5 535 632 A (KOLPAK MIROSLAV M) 16 July 1996 (1996-07-16) abstract; figures 2,4 column 4, line 45 - column 5, line 56 column 6, line 56 - column 8, line 10 -----	1-17, 29-45,56
X Y	EP 0 690 292 A (TEXACO DEVELOPMENT CORP) 3 January 1996 (1996-01-03) abstract; figure 1 column 1, line 35 - column 2, line 58 -----	57-79 18-28, 46-55
X A	US 4 574 643 A (RHODES EDWARD ET AL) 11 March 1986 (1986-03-11) abstract; figures 1,2 column 2, line 34 - column 3, line 19 column 3, line 56 - column 4, line 44 -----	57-79 18-28, 46-55
X A	US 4 429 581 A (FURMAGA ROBERT E) 7 February 1984 (1984-02-07) abstract; figure 1 column 1, line 41 - column 2, line 12 column 2, line 21 - column 4, line 40 -----	57-79 18-28, 46-55
A	WO 98/33051 A (TEXACO DEVELOPMENT CORP) 30 July 1998 (1998-07-30) abstract; figure 1 page 3, line 1 - line 4 page 5, line 10 - page 6, line 5 -----	1-79
A	US 5 654 502 A (DUTTON ROBERT E) 5 August 1997 (1997-08-05) abstract; figure 1 -----	1-79
A	US 5 894 080 A (DYBDAHL BJOERN) 13 April 1999 (1999-04-13) abstract; figures 1,2 column 1, line 51 - line 57 column 4, line 21 - line 47 -----	18-28, 46-55, 57-79
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/003849

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 561 557 A (HORIBA INSTR INC) 22 September 1993 (1993-09-22) abstract; figure 1 column 2, line 37 - column 3, line 23 -----	1-79
A	US 4 776 210 A (HSU FRANK H ET AL) 11 October 1988 (1988-10-11) abstract; figures 1-7 column 1, line 45 - column 2, line 30 -----	1-79
A	US 4 167 117 A (STOKLEY CHARLES O ET AL) 11 September 1979 (1979-09-11) abstract; figures 1,2,4 -----	1-79
A	WO 95/22400 A (DYBDAHL BJOERN) 24 August 1995 (1995-08-24) abstract; figures 1,2 -----	18-28, 46-55, 57-79

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/GB2004/003849

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0049370	A	24-08-2000	WO 0049370 A1 AU 3272599 A CA 2359622 A1 DE 69910447 D1 DE 69910447 T2 EP 1163495 A1 NO 20014016 A US 6546809 B1	24-08-2000 04-09-2000 24-08-2000 18-09-2003 24-06-2004 19-12-2001 17-08-2001 15-04-2003
US 4881412	A	21-11-1989	GB 2179156 A AT 58967 T CA 1285790 C DE 3676013 D1 EP 0213838 A1 EP 0326231 A1 GB 2213405 A , B	25-02-1987 15-12-1990 09-07-1991 17-01-1991 11-03-1987 02-08-1989 16-08-1989
US 6128962	A	10-10-2000	AU 8353298 A BR 9811561 A CA 2297250 A1 DK 200000141 A WO 9905482 A1 ID 26962 A NO 20000427 A	16-02-1999 12-09-2000 04-02-1999 28-01-2000 04-02-1999 22-02-2001 06-03-2000
US 5861561	A	19-01-1999	AU 1579797 A BR 9706984 A CA 2241934 A1 CN 1213431 A , B DE 69711846 D1 DE 69711846 T2 EP 0874976 A1 JP 3283524 B2 JP 2000502453 T RU 2181477 C2 WO 9726509 A1	11-08-1997 20-07-1999 24-07-1997 07-04-1999 16-05-2002 29-08-2002 04-11-1998 20-05-2002 29-02-2000 20-04-2002 24-07-1997
US 5535632	A	16-07-1996	WO 9510028 A1	13-04-1995
EP 0690292	A	03-01-1996	EP 0690292 A2 NO 952582 A US 5597961 A	03-01-1996 28-12-1995 28-01-1997
US 4574643	A	11-03-1986	NONE	
US 4429581	A	07-02-1984	NONE	
WO 9833051	A	30-07-1998	US 5763794 A BR 9807524 A CA 2278789 A1 CN 1246178 T EP 1012561 A1 WO 9833051 A1 ID 24371 A NO 993621 A	09-06-1998 19-06-2001 30-07-1998 01-03-2000 28-06-2000 30-07-1998 13-07-2000 27-09-1999
US 5654502	A	05-08-1997	AU 1690497 A BR 9612459 A	28-07-1997 13-07-1999

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/003849

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5654502	A	CA 2235760 A1	10-07-1997
		CN 1202966 A ,B	23-12-1998
		DE 69607390 D1	27-04-2000
		DE 69607390 T2	27-07-2000
		EP 0870196 A1	14-10-1998
		JP 3150706 B2	26-03-2001
		JP 2000515240 T	14-11-2000
		RU 2168011 C2	27-05-2001
		WO 9724615 A1	10-07-1997
US 5894080	A	13-04-1999	
		NO 942445 A	02-01-1996
		AU 2899595 A	25-01-1996
		EP 0764236 A1	26-03-1997
		WO 9600837 A1	11-01-1996
EP 0561557	A	22-09-1993	
		US 5337595 A	16-08-1994
		DE 69315463 D1	15-01-1998
		DE 69315463 T2	26-03-1998
		EP 0561557 A1	22-09-1993
		JP 3050719 B2	12-06-2000
		JP 6018378 A	25-01-1994
US 4776210	A	11-10-1988	NONE
US 4167117	A	11-09-1979	
		AU 510442 B2	26-06-1980
		AU 4802179 A	17-01-1980
		CA 1086526 A1	30-09-1980
		GB 2025048 A ,B	16-01-1980
		MX 149025 A	09-08-1983
		MY 11385 A	31-12-1985
		NO 792246 A ,B,	11-01-1980
WO 9522400	A	24-08-1995	
		NO 940576 A	22-08-1995
		AU 679624 B2	03-07-1997
		AU 1863595 A	04-09-1995
		GB 2301297 A ,B	04-12-1996
		WO 9522400 A1	24-08-1995